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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| EXAMINER |
|--------------|
| BLOUNT, ERIC |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2612 | |

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,799

Applicant(s)

PEEL ET AL.

Examiner

Eric M. Blount

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-18, and 20-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-9, and 33, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner [Pub No. US 2004/0174260 A1].

With regards to **claims 1 and 33**, Wagner discloses a shipping container tracking system comprising at least one shipping container sensor adapted to be attached to a first shipping container to sense a condition of at least one item within the first shipping container. The shipping container has a communication adapter to adaptively communicate the condition of the first shipping container to a second shipping container (paragraphs 10, 30, 37, and 46). Sensing the conditions of items within the shipping container is viewed as sensing a condition of the shipping container. In paragraph 46, Wagner discloses that sensors may monitor parameters such as temperature and humidity. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that sensing the condition of items within a shipping container would indicate the condition of the shipping container itself. For example, if all of the items within a shipping container sensed that the temperature was 100 degrees. It would have been obvious that the temperature of the first shipping container was 100 degrees.

As for **claim 2**, the tracking system may comprise at least one of a satellite communication adapter and a radio adapter (paragraphs 37 and 48).

As for **claims 3 and 6**, the shipping container communication adapter connects the first shipping container to an Ad-Hoc network (paragraph 37 and Figure 2).

As for **claim 7**, Wagner discloses that a radio adapter on a shipping container can communicate on a cellular communications network (paragraphs 51 and 52).

As for **claims 8 and 9**, Wagner discloses that a central location receives sensor data from at least one shipping container (paragraphs 53-54). Wagner does not specifically disclose that a central database is present. However, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that a memory of some sort be present at the central monitoring station. The monitoring station would have to have a memory to compare the content or conditions presently in a shipping container with those that were in the container before shipment (paragraphs 55-57). Comparing sensor data to thresholds and predetermined values reasonably appears to meet the limitation of verifying the contents of the first shipping container by processing the condition of the first shipping container against a manifest database (paragraphs 50, 51, 57, and 109).

3. Claims 4 and 5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner [Pub No. US 2004/0174260 A1] as applied to the claims above, and in further view of Breed [U.S. Patent No. 6,919,803 B2].

Regarding **claims 4 and 5**, Wagner does not specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, one of ordinary skill

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in the art would have recognized that the use of Bluetooth, UWB, or Wi-Fi to establish an ad-hoc communications network was well known in the art.

In an analogous art for remote asset monitoring, Breed discloses communication using Bluetooth, Wi-Fi or other protocols (column 13, lines 34-38). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Wagner to include the communication networks taught by Breed. The use any one of these communications networks would have been obvious because of their low-power characteristics, availability, and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

4. Claims 11-18 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner, as applied to the claims above, in view of Woolley et al [U.S. Patent No. 5,774,876].

With regards to **claims 11 and 20**, Wagner discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising, establishing a network connection between a first shipping container and a second shipping container. Sensor data will be transferred from a first shipping container to a second shipping container when the first shipping container is unable to transmit data directly to an off ship transmission path and a shipboard system (paragraphs 10 and 43). The data transfer will take place whether hazard detection occurs or not.

In an analogous art, Woolley discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising establishing a network between a first shipping container, second shipping container, and a vehicle driver cabin. Relevant

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information is sent through the tags to the driver. The driver's cabin is the equivalent of a ship's bridge. While the network is described as being on a land vehicle, one of ordinary skill in the art would have recognized that the concept would be implemented on any shipping vehicle. Whether on land or at sea, it would have been important to monitor the condition of the shipping containers. Hazard detection is considered relevant information that would be communicated to driver (column 18, lines 5-22). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Wagner to include a monitoring station (vehicle cabin/ship's bridge) located on the vehicle so that a driver would be able to ascertain hazard conditions and take the appropriate actions for correcting the problem. As for the sensor data allowing evaluation of national security related to the first shipping container. This limitation is viewed as an intended use. A skilled artisan would obviously include the proper sensors for monitoring specific conditions. If national security were an issue with the items being tracked through a supply chain, the appropriate sensors would be included. For example, if the system were monitoring firearms and explosives, the temperature and humidity of the shipping container would be important information. This sensor data would allow evaluation of national security related to the first shipping container.

As for **claims 12 and 21**, Wagner discloses a means for reforming a network. This means allows the system to add and remove containers from the network (paragraphs 42-44). One of ordinary skill in the art would recognize would have recognized that reforming the network would involve detecting and/or monitoring the path of radio signals between the first and second shipping containers.

As for **claims 13 and 22**, sensor data from a second shipping container can be transferred to at least one of a satellite data path, radio data path, and a shipboard system (paragraph 37).

Paragraph 37 shows that sensor data may be relayed to other containers using a radio data path.

As for **claims 14, 16, 23, and 25**, the shipping container communication adapter connects the first shipping container to an Ad-Hoc network (paragraph 37 and Figure 2).

Regarding **claims 15, 17, 24, and 26**, Wagner does not specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, one of ordinary skill in the art would have recognized that the use of Bluetooth, UWB, or Wi-Fi to establish an ad-hoc communications network was well known in the art. The use of the any one of these low-power communications networks would have been obvious because of their availability and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

As for **claims 18 and 27**, Wagner discloses that a radio adapter on a shipping container can communicate on a cellular communications network (paragraphs 51 and 52).

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner in view of He et al [U.S. Patent No. 6,995,667 B2].

With regards to **claim 28**, Wagner discloses a shipping container tracking system comprising at least one shipping container sensor adapted to be attached to a first shipping container to sense a condition of at least one item within the first shipping container. The shipping container has a communication adapter to adaptively communicate the condition of the first shipping container to a second shipping container (paragraphs 10, 30, 37, and 46). Sensing

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the conditions of items within the shipping container is viewed as sensing a condition of both the shipping container and the items within the container. In paragraph 46, Wagner discloses that sensors may monitor parameters such as temperature and humidity. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that sensing the condition of items within a shipping container would indicate the condition of the shipping container itself. For example, if all of the items within a shipping container sensed that the temperature was 100 degrees. It would have been obvious that the temperature of the first shipping container was 100 degrees. The tracking system may comprise at least one of a satellite communication adapter and a radio adapter (paragraphs 37 and 48). Wagner does not specifically disclose the inclusion of both a satellite and radio adapter.

In an analogous art for tracking and remote monitoring of shipped goods, He shows in column 6, lines 39-45 that a satellites and/or radio transmitters may be attached to the shipping containers. Further, He teaches that the communications devices (transmitters) may be presented in a modular form so that they are interchangeable (column 10, line 64 – column 11, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that each container would be provided with various communication devices located at various positions on the shipping container. Likewise, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that if one communication adapter, on a shipping container including plural communication adapters, failed, to use one of the other communication adapters which has not failed.

As for **claim 29**, Wagner discloses that a radio adapter on a shipping container communicates on a cellular communications network (paragraphs 51 and 52).

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner in view of He as applied to the claim 28 above, and in further view of Breed.

Regarding **claims 4 and 5**, neither Wagner nor He specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, one of ordinary skill in the art would have recognized that the use of Bluetooth, UWB, or Wi-Fi to establish an ad-hoc communications network was well known in the art.

In an analogous art for remote asset monitoring, Breed discloses communication using Bluetooth, Wi-Fi or other protocols (column 13, lines 34-38). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Wagner to include the communication networks taught by Breed. The use any one of these communications networks would have been obvious because of their low-power characteristics, availability, and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner in view of He, as applied to the claim 28 above, in view of Woolley.

Regarding **claim 31**, neither Wagner nor He specifically discloses communicating with a ship's bridge. In an analogous art, Woolley discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising establishing a network between a first shipping container, second shipping container, and a vehicle driver cabin. Relevant information is sent through the tags to the driver. The driver's cabin is the equivalent

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of a ship's bridge. While the network is described as being on a land vehicle, one of ordinary skill in the art would have recognized that the concept would be implemented on any shipping vehicle. Whether on land or at sea, it would have been important to monitor the condition of the shipping containers. Shipping on land or on sea are intended uses. Hazard detection is considered relevant information that would be communicated to driver (column 18, lines 5-22). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the inventions of Wagner and He to include a monitoring station (vehicle cabin/ship's bridge) located on the vehicle so that a driver would be able to ascertain hazard conditions and take the appropriate actions for correcting the problem.

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over He in view of Wagner.

As for **claim 32**, He discloses a shipping container for use in a shipping container tracking system comprising a shipping container housing, a satellite transmitter on the shipping container housing; or a radio transmitter on a side of the shipping container housing, and a GPS receiver located on the shipping container housing (column 3, lines 28-43). He discloses that the transmitters may be located at various locations on the shipping container. It would have been obvious to one of ordinary skill in the art to place the components at locations that provided optimum communication links. He shows in column 6, lines 39-45 that a satellites and/or radio transmitters may be attached to the shipping containers. Further, He teaches that the communications devices (transmitters) may be presented in a modular form so that they are interchangeable (column 10, line 64 – column 11, line 13). It would have been obvious to one of

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ordinary skill in the art at the time of the invention by the applicant that each container could be provided with various communication devices located at various positions on the shipping container. A skilled artisan would have recognized (as suggested by He) that the use of a communications devices and their location would be determined by the system in which the devices would be used. He does not disclose that the radio transmitter can communicate with a second shipping container.

In an analogous art for tracking and monitoring shipped items, Wagner discloses a system wherein a radio adapter is used to facilitate communication between a first and second shipping container (see discussions above). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of He to include the communication between containers taught by Wagner because the combination would result in a more effective shipping container tracking and monitoring system. The communication between containers would extend the range of the communication system by allowing containers that are out of range of a monitoring station to have their data relayed through in-range containers to the central monitoring station.

Allowable Subject Matter

9. **Claims 10 and 19** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

- a. Regarding claims 10 and 19, the prior art of record fails to sufficiently describe or suggest a shipping container tracking system comprising a line of intermediate communications buoys placed at sea at appropriate locations to at least one of test the

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container tracking system functionality an to detect anomalies at a safe distance from port facilities. These along with other limitations render the claims allowable over the prior art.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

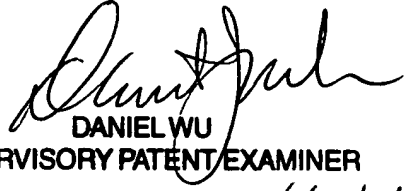
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Blount whose telephone number is (571) 272-2973. The examiner can normally be reached on Monday-Thursday 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric M. Blount


DANIEL WU
SUPERVISORY PATENT EXAMINER
6/12/06